# NATURAL RESOURCES CONSERVATION SERVICE

# CONSERVATION PRACTICE STANDARD

## Conservation Crop Rotation

(**Acre**)

**Code 328**

**DEFINITION**

An adapted sequence of crops designed to provide adequate organic residue or improvement of soil tilth.

**PURPOSES**

To improve or maintain good physical, chemical, and biological conditions of the soil; help reduce erosion; improve water use efficiency and water quality; improve wildlife habitat; or break reproduction cycles of plant pest.

**CONDITIONS WHERE PRACTICE APPLIES**

On all cropland or other lands where agricultural crops are grown.

**CRITERIA**

**CONSIDERATIONS**

1. On eroded soils or where estimated soil erosion under present management exceeds soil loss tolerance, the crop sequence should include high residue crops or the application of manure in addition to the minimum requirements of the specifications.

2. Where manure or livestock waste is used, crop sequences will be designed to provide for application according to the Standard and Specifications for Waste Utilization (633).

3. Water quality is influenced by the effects of growing and decaying vegetation on nutrient balance in the root zone. Crop sequence will be planned that will reduce nutrient and pesticide from leaching from the root zone. Nutrients and pesticides shall be applied according to Standards and Specifications (590) Nutrient Management and (595A) Pest Management.

4. Rotation of crops is desirable in most conservation cropping sequences. Crop rotation systems provide better maintenance of the soil tilth and the control of disease, insects and weeds.

5. The cropping sequence should maintain or improve water quality and enhance the habitat of the species of wildlife desired by the land user for primary or secondary use. Plan wildlife habitat improvements according to Practice Standards and Specifications for Upland Wildlife Habitat Management (645) and Wetland Wildlife Habitat Management (644).

6. Where wildlife food and cover are proposed, all residue will not be shredded or disked in the fall. At least 50 percent of residues will be left standing over the winter.

7. All chemicals shall be used strictly in accordance with the label and all state and federal laws. Necessary safety precautions should be exercised at all times. Only those pesticides which are labeled for the specific use will be recommended.

**PLANS AND SPECIFICATIONS**

1. Crop sequences shall be used that are compatible with the land user's enterprise and soil resources. The planned sequence may be a continuous crop or a rotation of crops. They may include cover crops, green manure crops, grasses, and/or legumes as needed to achieve the operator's goals.

2. Conservation cropping sequences will include a high residue producing crop (Table 1) at least 33 percent of the time, except sequences that include root crops will include high residue crops at least 50 percent of the time.

3. Low residue crops (Table 1) shall not be grown more than two consecutive years in the crop sequence unless supplemented by on of the following:

   (a) Six to eight tons/acre of strawy or liquid manure, not to exceed the amount of nitrogen or phosphorus recommended according to practice Standards and Specifications 590,
   (b) Winter cover crop (rye, winter wheat, triticale),
   (c) Green manure crop (red clover, sweet clover, hairy vetch, rape, small grain), or
   (d) Two tons/acre of straw or grass hay as mulch.

**Table 1. Residue Rating for Crops**

| High Residue Crops | Low Residue Crops |
|---|---|
| Alfalfa | Cabbage |
| Alsike clover | Carrots |
| Birdsfoot trefoil | Corn Silage |
| Canola | Cucumbers |
| Corn (for grain) | Green Lima beans |
| Grasses | Green peas |
| Mint | Lettuce |
| Popcorn | Muskmelons |
| Red clover | Onions |
| Seed corn | Potatoes |
| Sorghum (for grain) | Red beets |
| Soybeans (>30 bushels) | Snapbeans |
| Spring small grain | Sorghum (for silage) |
| Sweet corn | Soybeans (<30 bushels) |
| Winter small grain | Spinach |
| Residue crops that are followed by a winter cover crop, green manure crop or manure applications | Spring small grain (planted in the fall) |
| | Strawberries (without mulch) |
| | Sugar beets |
| | Sunflowers |
| | Summer fallow (<20% ground cover) |
| | Tobacco |
| | Tomatoes |
| | Watermelons |
| | Winter small grain (with straw removed or burned) |